

SEMICONDUCTOR RELAY 3RF2, 1-PH. WIDTH 45
MM, 20 A 48-460 V / 110-230 V AC SCREW TERMINAL



General technical data:

product brand name		SIRIUS
Product designation		solid-state relay
Product function		zero-point switching
Number of poles for main current circuit		1
Protection class IP		IP20
Ambient temperature		
• during operation	°C	-25 ... +60
• during storage	°C	-55 ... +80
Installation altitude at height above sea level maximum	m	1 000
Vibration resistance acc. to IEC 60068-2-6		2g
Shock resistance acc. to IEC 60068-2-27		15g / 11 ms
Equipment marking acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750		K
Equipment marking acc. to DIN EN 61346-2		Q
Number of NC contacts for auxiliary contacts		0
Number of NO contacts for auxiliary contacts		0
Number of CO contacts for auxiliary contacts		0

Main circuit:

Number of NO contacts for main contacts		1
Number of NC contacts for main contacts		0
Operating current		
• Rated value maximum	A	20
• at AC-51 Rated value	A	20

• minimum	mA	100
Operating voltage with AC		
• at 50 Hz Rated value	V	48 ... 460
• at 60 Hz Rated value	V	48 ... 460
Operating range relative to the operating voltage with AC		
• at 50 Hz	V	40 ... 506
• at 60 Hz	V	40 ... 506
Operating frequency Rated value	Hz	50 ... 60
Relative symmetrical tolerance of the operating frequency	%	10
Insulation voltage Rated value	V	600
Rate of voltage rise at the thyristor for main contacts maximum permissible	V/ μ s	500
Blocking voltage at the thyristor for main contacts maximum permissible	V	1 200
Reverse current of the thyristor	mA	10
Derating temperature	$^{\circ}$ C	40
Active power loss total typical	W	28.6
Surge current resistance Rated value	A	200
I²t value maximum	A ² ·s	200
Short-circuit protection, design of the fuse link		

Control circuit/ Control:

Control supply voltage frequency		
• 1 Rated value	Hz	50
• 2 Rated value	Hz	60
Type of voltage of the control supply voltage		AC
Control supply voltage 1		
• with AC		
— at 50 Hz Initial rated value	V	110
— at 50 Hz Final rated value	V	230
— at 60 Hz Initial rated value	V	110
— at 60 Hz Final rated value	V	230
Control supply voltage		
• with AC		
— at 50 Hz Full-scale value for signal<0> recognition	V	40
— at 60 Hz Full-scale value for signal<0> recognition	V	40
Symmetrical line frequency tolerance	Hz	5
Relative symmetrical tolerance of the supply voltage frequency	%	10
Control current		

- at minimum control supply voltage

- with AC

mA	2
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- with AC Rated value

mA	15
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Installation/ mounting/ dimensions:






Mounting type		screw fixing
Mounting type Side-by-side mounting		Yes
Design of the thread of the screw for securing the equipment		M4
Tightening torque of the screw for securing the equipment	N·m	1.5
Width	mm	45
Height	mm	58
Depth	mm	48

Connections/ Terminals:

Type of electrical connection for main current circuit		screw-type terminals
Design of the thread of the connection screw for main contacts		M4
Tightening torque for main contacts with screw-type terminals		
<ul style="list-style-type: none"> • minimum 	N·m	2
<ul style="list-style-type: none"> • maximum 	N·m	2.5
Tightening torque [lbf·in] for main contacts with screw-type terminals		
<ul style="list-style-type: none"> • minimum 	lbf·in	7
<ul style="list-style-type: none"> • maximum 	lbf·in	10.3
Type of connectable conductor cross-section		
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — solid 		2x (1.5 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²)
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — finely stranded <ul style="list-style-type: none"> — with core end processing 		2x (1 ... 2.5 mm ²), 2x (2.5 ... 6 mm ²), 1x 10 mm ²
<ul style="list-style-type: none"> • for AWG conductors <ul style="list-style-type: none"> — for main contacts 		2x (14 ... 10)
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — for auxiliary and control contacts 		1x (AWG 20 ... 12)
<ul style="list-style-type: none"> • for auxiliary and control contacts <ul style="list-style-type: none"> — solid 		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — finely stranded <ul style="list-style-type: none"> — with core end processing 		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — without core end processing 		1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
Connectable conductor cross-section		
<ul style="list-style-type: none"> • for main contacts <ul style="list-style-type: none"> — single or multi-stranded 	mm ²	1.5 ... 6
<ul style="list-style-type: none"> <ul style="list-style-type: none"> — finely stranded 		

— with core end processing	mm ²	1 ... 10
• for auxiliary and control contacts		
— solid	mm ²	0.5 ... 2.5
— finely stranded		
— with core end processing	mm ²	0.5 ... 2.5
— without core end processing	mm ²	0.5 ... 2.5
AWG number as coded connectable conductor cross section for main contacts		14 ... 10
Type of electrical connection for auxiliary and control current circuit		screw-type terminals
Design of the thread of the connection screw of the auxiliary and control contacts		M3
AWG number as coded connectable conductor cross section for auxiliary and control contacts		20 ... 12
Wire stripping length of the cable		
• for main contacts	mm	10
• for auxiliary and control contacts	mm	7
Tightening torque for auxiliary and control contacts with screw-type terminals	N·m	0.5 ... 0.6
Tightening torque [lbf·in] for auxiliary and control contacts with screw-type terminals	lbf·in	4.5 ... 5.3

Certificates/ approvals:

General Product Approval	EMC	Declaration of Conformity	Test Certificates
 CSA	 UR	 EAC	 C-TICK
		 EG-Konf.	Type Test Certificates/Test Report

other

[Environmental Confirmations](#)

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

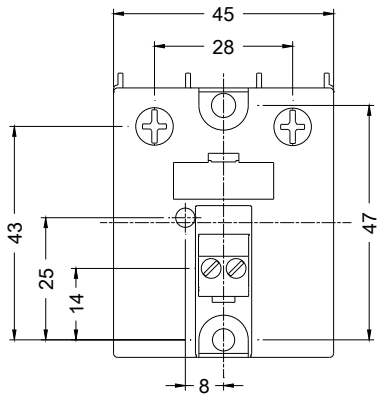
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Cax online generator

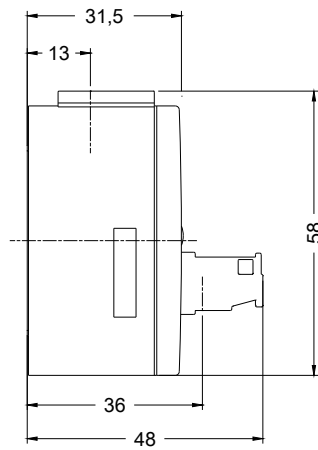
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RF20201AA24>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RF20201AA24/all>



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